

WHAT IS CLAIMED IS:

1. A laser lens system for illustrating a printing form, the system comprising:
at least one spherical lens arranged between the laser and the printing form in order
to bundle the laser light emitted by the laser; and
at least one aspherical lens arranged between the spherical lens and the printing
form for focusing or converging the laser light onto a desired spot.

2. A lens system in accordance with claim 1, wherein at least one lens is a cylinder
lens.

3. A lens system in accordance with claim 1, wherein said asymmetrical lens
comprises two or more of said lenses integrated together as an optical element.

4. A lens system in accordance with claim 1, wherein said asymmetrical lens
comprises two or more of said lenses integrated together as an optical element.

5. A lens system in accordance with claim 1, wherein at least one of said
symmetrical lens and said asymmetrical lens has, in a first direction, a focusing point
coinciding with at least one another of said lens symmetrical lens and said asymmetrical
lens for focusing the laser light in a second direction.

6. A lens system in accordance with claim 1, wherein at least one of said symmetrical lens and said asymmetrical lens has, in a first direction, a focusing point coinciding with another asymmetrical lens for focusing the laser light in a second direction.

5 7. A lens system according to claim 1, in combination with a laser.

8. A lens system in combination according to claim 1, wherein the laser is an edge-emitting or an area-emitting semiconductor laser diode.

9. A lens system in combination accordance with claim 7, wherein said spherical lens is arranged in front of an emitting area of the laser such that the focal point of the spherical lens is located at a greater distance from the spherical lens than from the light-emitting area.

10. A lens system in combination accordance with claim 5 with a printing form to be illustrated.

11. A lens system in combination accordance with claim 9 with a printing form to be illustrated.

12. A process for illustrating a printing form, the process comprising:

continuously operating a laser for exposing an area element of a predetermined width and height;

generating the laser light with the laser focused by a lens system with at least one spherical lens arranged between the laser and the printing form in order to bundle the laser light emitted by the laser and at least one aspherical lens arranged between the spherical lens and the printing form for focusing or converging the laser light onto a desired spot such that a strip is produced which has a width that approximately corresponds to the width of the area element to be exposed, wherein the strip has a height that is smaller than the height of the area element to be exposed; and

leading the laser light strip generated over the area element to be exposed such that the entire height of the area element to be exposed is swept by the strip.

13. A process in accordance with claim 12, wherein the laser is switched off when the strip has swept the entire height of the area element to be exposed.

14. A process in accordance with claim 12, wherein at least one lens is a cylinder lens.

15. A process in accordance with claim 12, wherein said asymmetrical lens comprises two or more of said lenses integrated together as an optical element.

16. A process in accordance with claim 12, wherein said asymmetrical lens comprises two or more of said lenses integrated together as an optical element.

17. A process in accordance with claim 12, wherein at least one of said symmetrical lens and said asymmetrical lens has, in a first direction, a focusing point coinciding with at least one another of said lens symmetrical lens and said asymmetrical lens for focusing the laser light in a second direction.

18. A process in accordance with claim 12, wherein at least one of said symmetrical lens and said asymmetrical lens has, in a first direction, a focusing point coinciding with another asymmetrical lens for focusing the laser light in a second direction.

19. A process in combination according to claim 12, wherein the laser is an edge-emitting or an area-emitting semiconductor laser diode.

20. A process in combination accordance with claim 19, wherein said spherical lens is arranged in front of an emitting area of the laser such that the focal point of the spherical lens is located at a greater distance from the spherical lens than from the light-emitting area.